IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

LG.PHILIPS LCD CO., LTD., Plaintiff/Counterclaim Defendant, v. TATUNG COMPANY; TATUNG COMPANY OF AMERICA, INC.; CHUNGHWA PICTURE TUBES, LTD.; AND VIEWSONIC CORPORATION, Defendants/Counterclaim Plaintiffs.	Civil Action No. 05-292 (JJF)

DECLARATION OF WILLIAM K. BOHANNON

I, William K. Bohannon, declare under penalty of perjury as follows:

1. I have personal knowledge of the facts stated in this declaration, and if called as a witness, I could competently testify to those facts. I make this declaration in support of LG.Philips LCD Co., Ltd.'s ("LPL") motion for a preliminary injunction.

2. I am a resident of the state of California, and I reside at 2060 Ridgecrest Place, Escondido, California.

3. In 1977, I received a Bachelor of Arts degree in mathematics. In addition, I have completed graduate work in mathematics, physics and computer science. I have studied several foreign languages, and I am fluent in Japanese.

4. During my professional career of over 25 years, I have worked in the commercial and industrial electronics field, with particular emphasis on display technology. Presently, I am the Chief Scientist for *Manx Research, Inc.* Among my various responsibilities, I manage and conduct detailed technical evaluations for all kinds of display products, such as liquid crystal display (LCD), cathode ray tube (CRT) and plasma display products. In addition, I oversee the collection of technical and market information relating to the Japanese and Korean LCD industry.

5. In addition to my work at *Manx Research*, I am currently the Vice President of *Planet ATE*, a company that I co-founded in 2001. *Planet ATE* develops and manufactures specialized integrated circuits (ICs) that are used in semiconductor manufacturing and testing equipment. My responsibilities primarily involve marketing, sales and contract negotiation for customers in Japan, Korea, Taiwan, China, Singapore and Hong Kong.

6. Prior to my work at *Manx Research* and *Planet ATE*, I was the Chief Scientist, Display Products Division, for *Proxima, Inc.* As Chief Scientist, I tracked LCD and other display technology worldwide, in order to stay abreast and on top of the rapidly evolving technology; evaluated samples of then current and future production LCDs; and developed and tested new LCD products. I also directed *Proxima's* patent prosecution activities.

7. I have worked on several litigation matters, including a patent infringement suit; I have authored several publications; and, I am a named inventor on several patents.

More detailed information about my background, experience and achievements can be found in my resume which is attached as *Exhibit 1*.

8. Given my background, experience, knowledge and education, I am regarded as an expert in the field of display technology, which includes flat panel display technologies such as LCD and plasma display technology. Consequently, I have been asked to review and analyze, and I have in fact reviewed and analyzed U.S. Patent No. 6,738,121 ("the '121 patent"), including the claims. A true and correct copy of the '121 patent is attached as *Exhibit 2*.

9. I reviewed all of the claims in '121 patent; however, I focused on claims 1, 2, 5-9, and 14. Table I sets forth claims 1, 2, 5-9, and 14 of the '121 patent. Table I also sets forth representative portions of the disclosure from the '121 patent that provide support for the claim language.

Table I

Claims in the '121 Patent	**Representative Support for the claims from the '121 Patent Disclosure**
1. A liquid crystal display device, comprising:	"This invention relates to an apparatus for mounting an integrated circuit on a liquid crystal display." Col. 1, lines 13-17.
a liquid crystal panel;	"A liquid crystal display device according to…the present invention includes a liquid crystal display panel" Col. 3, lines 62-64.
a printed circuit board; and	"[A] liquid crystal display requires a number of driving integrated circuits …'D-IC'…connected to the data lines and the gate lines to apply data signals and scanning signals to the data lines and the gate lines, respectively. The D-ICs are installed

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
	between the printed circuit board (PCB) and the liquid crystal board (PCB) and the liquid crystal panel to apply the data signals and the scanning signals to the data lines and the gate lines of the liquid crystal panel in response to the control signal applied from the PCB." Col. 1, lines 39-47.
a tape carrier package connected to the liquid crystal panel and the printed circuit board, the tape carrier package comprising:	"A tape automated bonding (TAB) system has generally been used as mounted method of the D-ICs that is capable of widening an effective area of the panel and has a relatively simple mounting process. The bending-type TAB system as shown in Fig. 1A has been used for a mounting of source and gate drivers of a monitor or a notebook computer. In the bending type TAB system, a PCB 6 is folded to the rear side of a liquid crystal panel 2 by bending a tape carrier package (TCP)10 mounted with a D-IC 8 and connected between a lower glass substrate 3 of the liquid crystal panel 2 and the PCB 6." Col. 1, line 47 – col. 2, line 3.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	Referring to Figs. 8 and 9, "[t]he TCP includes a D-IC 38 mounted on a base film 44." Col. 5, lines 1-2.
an output pad part extending from the integrated circuit chip and having terminals connected to the liquid crystal panel;	"The TCP includes…an output pad part 42." Col. 5, lines 1-5. "At the output pad part 42 are provided pads extending from the lead part 46 [connected to output pins of the D-IC 38] to be connected to pads formed at the edge of the lower glass substrate 3 [of the liquid crystal panel]." Col. 5, lines 17-20.
a dummy bending part in which a portion of the base film is removed in a direction perpendicular to the terminals of the output pad part for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part onto the liquid	"The dummy bending part 30c reduces the TCP area to which heat is applied at the time of adhering the TCP to the lower glass substrate. Accordingly, since the amount of thermal expansion of the TCP is reduced, the stress applied to the lower glass substrate 3 by the TCP is distributed and thus reduced." Col. 5, lines 24-29.

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
crystal panel;	
a first bending part in which a second portion of the base film existing at a bent position between the dummy bending part and the integrated circuit chip is removed; and	"Between the output pad part 42 and the D-IC 38 is provided the...bending part 30b and the dummy bending part 30c in which the base film 44 is removed." Col. 5, lines 19-22.
an input pad part extending from the integrated circuit chip and having terminals connected to the printed circuit board,	"At the input pad part 41 are formed pads extending from the lead part 46 [connected to the output pins of the D-IC 38] to be connected to an output signal wiring of a PCB 6." Col. 5, lines 10-13.
wherein the dummy bending part is formed at a position, close to any one of the output pad part or the input pad part, where the tape carrier package is not folded.	As shown in Fig. 8, the dummy bending part is formed at a position, close to any one of the output pad part or the input pad part, where the tape carrier package is not folded. Col. 3, lines 56-59.
2. A liquid crystal display device, comprising:	"This invention relates to an apparatus for mounting an integrated circuit on a liquid crystal display." Col. 1, lines 13-17.
a liquid crystal panel;	"A liquid crystal display device according to…the present invention includes a liquid crystal display panel" Col. 3, lines 62-64.

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
a printed circuit board; and	"[A] liquid crystal display requires a number of driving integrated circuits …'D-IC'…connected to the data lines and the gate lines to apply data signals and scanning signals to the data lines and the gate lines, respectively. The D-ICs are installed between the printed circuit board (PCB) and the liquid crystal board (PCB) and the liquid crystal panel to apply the data signals and the scanning signals to the data lines and the gate lines of the liquid crystal panel in response to the control signal applied from the PCB." Col. 1, lines 39-47.
a tape carrier package connected to the liquid crystal panel and the printed circuit board, the tape carrier package comprising:	"A tape automated bonding (TAB) system has generally been used as mounted method of the D-ICs that is capable of widening an effective area of the panel and has a relatively simple mounting process. The bending-type TAB system as shown in Fig. 1A has been used for a mounting of source and gate drivers of a monitor or a notebook computer. In the bending type TAB system, a PCB 6 is folded to the rear side of a liquid crystal panel 2 by bending a tape carrier package (TCP)10 mounted with a D-IC 8 and connected between a lower glass substrate 3 of the liquid crystal panel 2 and the PCB 6." Col. 1, line 47 – col. 2, line 3.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	Referring to Figs. 8 and 9, "[t]he TCP includes a D-IC 38 mounted on a base film 44." Col. 5, lines 1-2.
an output pad part extending from the integrated circuit chip and having terminals connected to the liquid crystal panel;	"The TCP includes…an output pad part 42." Col. 5, lines 1-5. "At the output pad part 42 are provided pads extending from the lead part 46 [connected to output pins of the D-IC 38] to be connected to pads formed at the edge of the lower glass substrate 3 [of the liquid crystal panel]." Col. 5, lines 17-20.

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
a dummy bending part in which a portion of the base film is removed in a direction perpendicular to the terminals of the output pad part for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part onto the liquid crystal panel;	"The dummy bending part 30c reduces the TCP area to which heat is applied at the time of adhering the TCP to the lower glass substrate. Accordingly, since the amount of thermal expansion of the TCP is reduced, the stress applied to the lower glass substrate 3 by the TCP is distributed and thus reduced." Col. 5, lines 24-29.
a first bending part in which a second portion of the base film existing at a bent position between the dummy bending part and the integrated circuit chip is removed;	"Between the output pad part 42 and the D-IC 38 is provided the...bending part 30b and the dummy bending part 30c in which the base film 44 is removed." Col. 5, lines 19-21.
an input pad part extending from the integrated circuit chip and having terminals connected to the printed circuit board; and	"At the input pad part 41 are formed pads extending from the lead part 46 [connected to the output pins of the D-IC 38] to be connected to an output signal wiring of a PCB 6." Col. 5, lines 10-13.
a second bending part in which a third portion of the base film existing at a bent position between the input pad part and the integrated circuit chip is removed.	"[A] bending part 30a is provided between an input pad part 41 and the D-IC 38." Fig. 1; col. 5, lines 2-3.
5. A tape carrier package, comprising:	"A tape automated bonding (TAB) system has generally been used as mounted method of the D-ICs that is capable of widening an effective area of the panel and has a relatively simple mounting process. The bending-type TAB system as shown in Fig. 1A has been used for a mounting of source and gate drivers of a monitor or a notebook computer. In the bending type TAB system, a PCB 6 is folded to the rear side of a liquid crystal panel 2 by bending a tape carrier package (TCP)10 mounted with a D-IC 8 and connected between a

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
	lower glass substrate 3 of the liquid crystal panel 2 and the PCB 6." Col. 1, line 47 – col. 2, line 3.
a pad part for connection to a liquid crystal panel;	"The TCP includes…an output pad part 42." Col. 5, lines 1-5. "At the output pad part 42 are provided pads extending from the lead part 46 [connected to output pins of the D-IC 38] to be connected to pads formed at the edge of the lower glass substrate 3 [of the liquid crystal panel]." Col. 5, lines 17-20.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel; and	Referring to Figs. 8 and 9, "[t]he TCP includes a D-IC 38 mounted on a base film 44." Col. 5, lines 1-2. "The D-IC 38 plays a role to apply scanning signals, or data, to gate lines or data lines of a liquid crystal panel." Col. 5, lines 5-6.
a dummy bending part for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part by removing a portion of the base film between the pad part and the integrated circuit chip,	"The dummy bending part 30c reduces the TCP area to which heat is applied at the time of adhering the TCP to the lower glass substrate. Accordingly, since the amount of thermal expansion of the TCP is reduced, the stress applied to the lower glass substrate 3 by the TCP is distributed and thus reduced." Col. 5, lines 24-29.
wherein the dummy bending part is formed at a position, close to the pad part, where the tape carrier package is not folded.	As shown in Fig. 8, the dummy bending part is formed at a position, close to any one of the output pad part or the input pad part, where the tape carrier package is not folded. Col. 3, lines 56-59.
6. The tape carrier package according to claim 5, further comprising a first bending part in which a second portion of the base film is removed at the bent position between the dummy bending part and the integrated circuit chip.	"Between the output pad part 42 and the D-IC 38 is provided the...bending part 30b and the dummy bending part 30c in which the base film 44 is removed." Col. 5, lines 19-22.

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
7. The tape carrier package according to claim 6, further comprising a second pad part for connection to a printed circuit board.	"At the input pad part 41 are formed pads extending from the lead part 46 [connected to the output pins of the D-IC 38] to be connected to an output signal wiring of a PCB 6." Col. 5, lines 10-13.
8. A tape carrier package, comprising:	"A tape automated bonding (TAB) system has generally been used as mounted method of the D-ICs that is capable of widening an effective area of the panel and has a relatively simple mounting process. The bending-type TAB system as shown in Fig. 1A has been used for a mounting of source and gate drivers of a monitor or a notebook computer. In the bending type TAB system, a PCB 6 is folded to the rear side of a liquid crystal panel 2 by bending a tape carrier package (TCP)10 mounted with a D-IC 8 and connected between a lower glass substrate 3 of the liquid crystal panel 2 and the PCB 6." Col. 1, line 47 – col. 2, line 3.
a pad part for connection to a liquid crystal panel;	"The TCP includes…an output pad part 42." Col. 5, lines 1-5. "At the output pad part 42 are provided pads extending from the lead part 46 [connected to output pins of the D-IC 38] to be connected to pads formed at the edge of the lower glass substrate 3 [of the liquid crystal panel]." Col. 5, lines 17-20.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	Referring to Figs. 8 and 9, "[t]he TCP includes a D-IC 38 mounted on a base film 44." Col. 5, lines 1-2.
a dummy bending part for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part by removing a portion of the base film between the pad part and the integrated circuit chip;	"The dummy bending part 30c reduces the TCP area to which heat is applied at the time of adhering the TCP to the lower glass substrate. Accordingly, since the amount of thermal expansion of the TCP is reduced, the stress applied to the lower glass substrate 3 by the TCP is distributed and thus reduced." Col. 5, lines 24-29.

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
a first bending part in which a second portion of the base film is removed at a bent position between the dummy bending part and the integrated circuit chip;	"Between the output pad part 42 and the D-IC 38 is provided the...bending part 30b and the dummy bending part 30c in which the base film 44 is removed." Col. 5, lines 19-22.
a second pad part for connection to a printed circuit board; and	"At the input pad part 41 are formed pads extending from the lead part 46 [connected to the output pins of the D-IC 38] to be connected to an output signal wiring of a PCB 6." Col. 5, lines 10-13.
a second bending part in which a third portion of the base film is removed at a bent position between the second pad and the integrated circuit chip.	A bending part 30a is provided between an input pad part 41 and the D-IC 38. Fig. 1; col. 5, lines 2-3.
9. The tape carrier package according to claim 5, further comprising a second pad part for connection to a printed circuit board.	"At the input pad part 41 are formed pads extending from the lead part 46 [connected to the output pins of the D-IC 38] to be connected to an output signal wiring of a PCB 6." Col. 5, lines 10-13.
14. A tape carrier package, comprising:	"A tape automated bonding (TAB) system has generally been used as mounted method of the D-ICs that is capable of widening an effective area of the panel and has a relatively simple mounting process. The bending-type TAB system as shown in Fig. 1A has been used for a mounting of source and gate drivers of a monitor or a notebook computer. In the bending type TAB system, a PCB 6 is folded to the rear side of a liquid crystal panel 2 by bending a tape carrier package (TCP)10 mounted with a D-IC 8 and connected between a lower glass substrate 3 of the liquid crystal panel 2 and the PCB 6." Col. 1, line 47 – col. 2, line 3.

Claims in the '121 Patent	Representative Support for the claims from the '121 Patent Disclosure
a base film mounted with an integrated circuit chip for applying a signal to a liquid crystal panel;	Referring to Figs. 8 and 9, "[t]he TCP includes a D-IC 38 mounted on a base film 44." Col. 5, lines 1-2. "The D-IC 38 plays a role to apply scanning signals, or data, to gate lines or data lines of a liquid crystal panel." Col. 5, lines 5-6.
a pad part extending from the integrated circuit chip to be connected to the liquid crystal panel;	"The TCP includes…an output pad part 42." Col. 5, lines 1-5. "At the output pad part 42 are provided pads extending from the lead part 46 [connected to output pins of the D-IC 38] to be connected to pads formed at the edge of the lower glass substrate 3 [of the liquid crystal panel]." Col. 5, lines 17-20.
at least one bending part in which a portion of the base film is removed at an area where the tape carrier package is folded; and	"Between the output pad part 42 and the D-IC 38 is provided the...bending part 30b and the dummy bending part 30c in which the base film 44 is removed." Col. 5, lines 19-22.
at least one dummy bending part, in which a second portion of the base film is removed at a portion where the tape carrier package is not folded, thereby reducing a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip.	"The dummy bending part 30c reduces the TCP area to which heat is applied at the time of adhering the TCP to the lower glass substrate. Accordingly, since the amount of thermal expansion of the TCP is reduced, the stress applied to the lower glass substrate 3 by the TCP is distributed and thus reduced." Col. 5, lines 24-29.

10. In addition to reviewing and analyzing the '121 patents, I reviewed and analyzed the file history associated with the '121 patent, including the prior art cited in the file histories. This includes the prior art cited by the examiner, as well as the prior art submitted to the Patent Office by the applicant. Moreover, I concur with the Examiner

that the claims in the '121 patent, and in particular, claims 1, 2, 5-9, and 14, are patentable over the prior art that was cited. A true and correct copy of the file history associated with the '121 patent is attached as *Exhibit 3*.

11. I was also asked to examine, and I did in fact examine, a Tatung monitor L17AMTN and a ViewSonic monitor VE710S. In doing so, I compared both products to each of claims 1, 2, 5-9, and 14 in the '121 patent for the purpose of determining whether the products infringe any one or more of these claims. The procedure that I used to examine these products, along with my observations and opinions regarding infringement are set forth in detail below.

12. I examined the Tatung and ViewSonic monitors referenced above. In general, my examination of both products involved sufficiently disassembling the products so that I was able to carefully study the structural and electrical components contained therein and, more particularly, the tape carrier packages of both.

13. I occasionally refer to one or more of photographs of the Tatung and ViewSonic monitors herein below, where I have determined that doing so helps clarify my statements.

14. As stated above, I have previously worked on patent litigation matters and patent prosecution matters, and I understand that before I can determine whether a patent claim is infringed, the claim must be properly construed. In construing claims 1, 2, 5-9, and 14 of the '121 patent, I applied the ordinary and accustomed meaning to all recited terms.

15. I understand that a patent claim is infringed by an accused device if each and every limitation set forth in the patent claim, or its equivalent, can be found in the accused device. I also understand that a limitation is equivalent if the difference between the limitation set forth in the claim and the corresponding feature in the accused device is insubstantial. It is my opinion that both the Tatung monitor and the ViewSonic monitor contain all of the limitations set forth in claims 1, 2, 5-9, and 14 of the '121 patent. To the extent there are any differences between the claim limitations and the features associated with the Tatung and ViewSonic monitors, it is my opinion that both monitors at least infringe under the doctrine of equivalents, as the feature or features in the accused devices that correspond to each of the claim limitations perform substantially the same function, substantially the same way and with substantially the same result. The following statements and claim charts set forth the specific procedure that I used to examine the Tatung and ViewSonic monitors, as well as the reasons why I believe both of these products infringe the '121 patent.

The Tatung L17AMTN Monitor

16. Referring to the Tatung L17AMTN monitor, I began my examination of the Tatung L17AMTN monitor by removing the rear housing of the monitor to expose the rear surface of a support frame. After removing the seven screws and after disconnecting the wire bundle connector, the support frame and the front housing can be separated, thereby exposing the LCD module positioned between the support frame and the front housing.

17. The LCD module in this Tatung L17AMTN monitor is a CPT LCD module. The CPT module contains a TFT LCD panel and a backlight unit.

18. PCBs are connected to the LCD panel by tape carrier packages folded around the backlight. The tape carrier packages can be unfolded such that the backlight and the LCD panel can be separated.

19. The tape carrier package D includes a base film E mounted with an integrated circuit chip F for applying a signal to the liquid crystal panel B. *Exhibit 4, Tatung Picture.* An output pad part G extends from the integrated circuit chip F and has terminals connected to the liquid crystal panel B. *Id.* The tape carrier package D includes a dummy bending part H, in which a portion of the base film E is removed in a direction perpendicular to the terminals of the output pad part G. *Id.* The purpose of the dummy bending portion H is to reduce a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part G onto the liquid crystal panel B. *Id.* The dummy bending part H is formed at a position, close to the output pad part G, where the tape carrier package D is not folded. *Id.*

20. The tape carrier package D also includes a first bending part I in which a second portion of the base film E existing at a bent position between the dummy bending part H and the integrated circuit chip F is removed. *Id.* An input pad part J extends from the integrated circuit chip F and has terminals connected to the printed circuit board C. *Id.*

21. It is my opinion that the Tatung L17AMTN monitor literally infringes the '121 patent because each and every limitation set forth in claims 1, 2, 5-9, and 14 of the '121 patent can be found in the Tatung monitor. The bases for my opinion are set forth below in Table II.

Table II

Claims in the '121 Patent	**Tatung L17AMTN Monitor**
1. A liquid crystal display device, comprising:	The Tatung monitor is a liquid crystal display device, and includes
a liquid crystal panel;	a liquid crystal panel **B**.
a printed circuit board; and	a printed circuit board **C**.
a tape carrier package connected to the liquid crystal panel and the printed circuit board, the tape carrier package comprising:	a tape carrier package **D** is connected to the liquid crystal panel **B** and the printed circuit board **C**.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	a base film **E** is mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
an output pad part extending from the integrated circuit chip and having terminals connected to the liquid crystal panel;	an output pad part **G** extends from the integrated circuit chip **F** and has terminals connected to the liquid crystal panel **B**.
a dummy bending part in which a portion of the base film is removed in a direction perpendicular to the	a dummy bending part **H,** in which a portion of the base film **E** is removed in a direction perpendicular to the terminals of the output pad part **G**, reduces a

Claims in the '121 Patent	Tatung L17AMTN Monitor
terminals of the output pad part for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part onto the liquid crystal panel;	thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part **G** onto the liquid crystal panel **B**.
a first bending part in which a second portion of the base film existing at a bent position between the dummy bending part and the integrated circuit chip is removed; and	a first bending part **I** in which a second portion of the base film **E** existing at a bent position between the dummy bending part **H** and the integrated circuit chip **F** is removed.
an input pad part extending from the integrated circuit chip and having terminals connected to the printed circuit board,	an input pad part **J** extends from the integrated circuit chip **F** and has terminals connected to the printed circuit board **C**.
wherein the dummy bending part is formed at a position, close to any one of the output pad part or the input pad part, where the tape carrier package is not folded.	the dummy bending part **H** is formed at a position, close to the output pad part **G**, where the tape carrier package **D** is not folded.
2. A liquid crystal display device, comprising:	The Tatung monitor is a liquid crystal display device, and includes
a liquid crystal panel;	a liquid crystal panel **B**.
a printed circuit board; and	a printed circuit board **C**.
a tape carrier package connected to the liquid crystal panel and the printed circuit board,	a tape carrier package **D** is connected to the liquid crystal panel **B** and the printed circuit board **C**.
the tape carrier package comprising: a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	the tape carrier package **D** includes a base film **E** mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
an output pad part extending from the integrated circuit chip and having terminals connected to the liquid crystal panel;	an output pad part **G** extends from the integrated circuit chip **F** and haa terminals connected to the liquid crystal panel **B**.
a dummy bending part in which a	a dummy bending part **H** in which a portion of the

Claims in the '121 Patent	Tatung L17AMTN Monitor
portion of the base film is removed in a direction perpendicular to the terminals of the output pad part for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part onto the liquid crystal panel;	base film **C** is removed in a direction perpendicular to the terminals of the output pad part **G** for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part **G** onto the liquid crystal panel **B**.
a first bending part in which a second portion of the base film existing at a bent position between the dummy bending part and the integrated circuit chip is removed;	a first bending part **I** in which a second portion of the base film **E** existing at a bent position between the dummy bending part **H** and the integrated circuit chip **F** is removed.
an input pad part extending from the integrated circuit chip and having terminals connected to the printed circuit board; and	an input pad part **J** extends from the integrated circuit chip **F** and has terminals connected to the printed circuit board **C.**
a second bending part in which a third portion of the base film existing at a bent position between the input pad part and the integrated circuit chip is removed.	a second bending part **K** in which a third portion of the base film **E** existing at a bent position between the input pad part **J** and the integrated circuit chip **F** is removed.
5. A tape carrier package, comprising:	The Tatung monitor includes CPT module with a tape carrier package **D**, which includes
a pad part for connection to a liquid crystal panel;	a pad part **G** for connection to a liquid crystal panel **B**.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel; and	a base film **E** mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
a dummy bending part for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part by removing a portion of the base film between the pad part and the integrated circuit chip,	a dummy bending part **H** for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part **G** by removing a portion of the base film **E** between the pad part **G** and the integrated circuit chip **F**.

Claims in the '121 Patent	Tatung L17AMTN Monitor
wherein the dummy bending part is formed at a position, close to the pad part, where the tape carrier package is not folded.	the dummy bending part **H** is formed at a position, close to the pad part **G**, where the tape carrier package **D** is not folded.
6. The tape carrier package according to claim 5, further comprising a first bending part in which a second portion of the base film is removed at the bent position between the dummy bending part and the integrated circuit chip.	The tape carrier package **D** includes a first bending part **I** in which a second portion of the base film **E** is removed at the bent position between the dummy bending part **H** and the integrated circuit chip **F**.
7. The tape carrier package according to claim 6, further comprising a second pad part for connection to a printed circuit board.	The tape carrier package **D** includes a second pad part **J** for connection to a printed circuit board **C**.
8. A tape carrier package, comprising:	The Tatung monitor includes CPT module with a tape carrier package **D**, which includes
a pad part for connection to a liquid crystal panel;	a pad part **G** for connection to a liquid crystal panel **B**.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	a base film **E** mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
a dummy bending part for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part by removing a portion of the base film between the pad part and the integrated circuit chip;	a dummy bending part **H** for distributing a stress applied to the liquid crystal panel **B** according to a thermal expansion of the pad part by removing a portion of the base film **E** between the pad part **G** and the integrated circuit chip **F**.
a first bending part in which a second portion of the base film is removed at a bent position between the dummy bending part and the integrated circuit chip;	a first bending part **I** in which a second portion of the base film **E** is removed at a bent position between the dummy bending part **H** and the integrated circuit chip **F**.
a second pad part for connection to	a second pad part **J** for connection to a printed

Claims in the '121 Patent	Tatung L17AMTN Monitor
a printed circuit board; and	circuit board **C**.
a second bending part in which a third portion of the base film is removed at a bent position between the second pad and the integrated circuit chip.	a second bending part **K** in which a third portion of the base film **E** is removed at a bent position between the second pad **J** and the integrated circuit chip **F**.
9. The tape carrier package according to claim 5, further comprising a second pad part for connection to a printed circuit board.	The tape carrier package **D** includes a second pad part **K** for connection to a printed circuit board **C**.
14. A tape carrier package, comprising:	The Tatung monitor includes CPT module with a tape carrier package D, which includes
a base film mounted with an integrated circuit chip for applying a signal to a liquid crystal panel;	a base film **E** mounted with an integrated circuit chip **F** for applying a signal to a liquid crystal panel **B**.
a pad part extending from the integrated circuit chip to be connected to the liquid crystal panel;	a pad part **G** extending from the integrated circuit chip **F** to be connected to the liquid crystal panel **B**.
at least one bending part in which a portion of the base film is removed at an area where the tape carrier package is folded; and	at least one bending part **I** in which a portion of the base film **E** is removed at an area where the tape carrier package **D** is folded.
at least one dummy bending part, in which a second portion of the base film is removed at a portion where the tape carrier package is not folded, thereby reducing a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip.	at least one dummy bending part **H**, in which a second portion of the base film **E** is removed at a portion where the tape carrier package **D** is not folded, thereby reducing a thermal expansion force and a thermal contraction force of the base film **E** parallel to a longitudinal direction of the integrated circuit chip **F**.

The ViewSonic VE710S Moitor

22. Referring to the ViewSonic VE710S monitor, I began my examination of the ViewSonic monitor by removing the front and rear housings and the stand to expose the front and rear frames. Three plates were removed from the back frame. The front and back frames are removed to show that the LCD module manufactured by CPT. The brackets on the back of the LCD module are removed to expose the printed circuit boards (PCB).

23. The PCBs are connected to the LCD panel by tape carrier packages folded around the backlight. The tape carrier packages are unfolded so that the backlight and the LCD panel could be separated.

24. The tape carrier package D includes a base film E is mounted with an integrated circuit chip F for applying a signal to the liquid crystal panel B. *Exhibit 5, ViewSonic Picture.* An output pad part G extends from the integrated circuit chip F and has terminals connected to the liquid crystal panel B. *Id.* The tape carrier package D includes a dummy bending part H, in which a portion of the base film E is removed in a direction perpendicular to the terminals of the output pad part G. *Id.* The purpose of the dummy bending portion H is to reduce a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part G onto the liquid crystal panel B. *Id.* The dummy bending part H is formed at a position, close to any one of the output pad part G or the input pad part J, where the tape carrier package D is not folded. *Id.*

25. The tape carrier package D also includes a first bending part I in which a second portion of the base film E existing at a bent position between the dummy bending part H and the integrated circuit chip F is removed. *Id.* An input pad part J extends from the integrated circuit chip F and has terminals connected to the printed circuit board C. *Id.*

26. It is my opinion that the ViewSonic VE710s monitor literally infringes the '121 patent because each and every limitation set forth in claims 1, 2, 5-9, and 14 of the '121 patent can be found in the ViewSonic monitor. The bases for my opinion are set forth below in Table III.

Table III

Claims in the '121 Patent	**ViewSonic VE710s Monitor**
1. A liquid crystal display device, comprising:	The ViewSonic monitor is a liquid crystal display device, and includes
a liquid crystal panel;	a liquid crystal panel **B**.
a printed circuit board; and	a printed circuit board **C**.
a tape carrier package connected to the liquid crystal panel and the printed circuit board, the tape carrier package comprising:	a tape carrier package **D** is connected to the liquid crystal panel **B** and the printed circuit board **C**.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	a base film **E** is mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
an output pad part extending from the integrated circuit chip and having terminals connected to the liquid crystal panel;	an output pad part **G** extends from the integrated circuit chip **F** and has terminals connected to the liquid crystal panel **B**.
a dummy bending part in which a portion of the base film is removed in a direction perpendicular to the	a dummy bending part **H,** in which a portion of the base film **E** is removed in a direction perpendicular to the terminals of the output pad part **G**, reduces a

Claims in the '121 Patent	ViewSonic VE710s Monitor
terminals of the output pad part for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part onto the liquid crystal panel;	thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part **G** onto the liquid crystal panel **B**.
a first bending part in which a second portion of the base film existing at a bent position between the dummy bending part and the integrated circuit chip is removed; and	a first bending part **I** in which a second portion of the base film **E** existing at a bent position between the dummy bending part **H** and the integrated circuit chip **F** is removed.
an input pad part extending from the integrated circuit chip and having terminals connected to the printed circuit board,	an input pad part **J** extends from the integrated circuit chip **F** and has terminals connected to the printed circuit board **C**.
wherein the dummy bending part is formed at a position, close to any one of the output pad part or the input pad part, where the tape carrier package is not folded.	the dummy bending part **H** is formed at a position, close to the output pad part **G**, where the tape carrier package **D** is not folded.
2. A liquid crystal display device, comprising:	The ViewSonic monitor is a liquid crystal display device, and includes
a liquid crystal panel;	a liquid crystal panel **B**.
a printed circuit board; and	a printed circuit board **C**.
a tape carrier package connected to the liquid crystal panel and the printed circuit board, the tape carrier package comprising:	a tape carrier package **D** is connected to the liquid crystal panel **B** and the printed circuit board **C**.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	the tape carrier package **D** includes a base film **E** mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
an output pad part extending from the integrated circuit chip and having terminals connected to the liquid crystal panel;	an output pad part **G** extends from the integrated circuit chip **F** and has terminals connected to the liquid crystal panel **B**.
a dummy bending part in which a portion of the base film is removed	a dummy bending part **H** in which a portion of the base film **C** is removed in a direction perpendicular

Claims in the '121 Patent	ViewSonic VE710s Monitor
in a direction perpendicular to the terminals of the output pad part for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part onto the liquid crystal panel;	to the terminals of the output pad part **G** for reducing a thermal expansion force and a thermal contraction force generated when thermal-pressing the output pad part **G** onto the liquid crystal panel **B**.
a first bending part in which a second portion of the base film existing at a bent position between the dummy bending part and the integrated circuit chip is removed;	a first bending part **I** in which a second portion of the base film **E** existing at a bent position between the dummy bending part **H** and the integrated circuit chip **F** is removed.
an input pad part extending from the integrated circuit chip and having terminals connected to the printed circuit board; and	an input pad part **J** extends from the integrated circuit chip **F** and has terminals connected to the printed circuit board **C.**
a second bending part in which a third portion of the base film existing at a bent position between the input pad part and the integrated circuit chip is removed.	a second bending part **K** in which a third portion of the base film **E** existing at a bent position between the input pad part **J** and the integrated circuit chip **F** is removed.
5. A tape carrier package, comprising:	The ViewSonic monitor includes a CPT module with a tape carrier package **D**, which includes
a pad part for connection to a liquid crystal panel;	a pad part **G** for connection to a liquid crystal panel **B**.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel; and	a base film **E** mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
a dummy bending part for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part by removing a portion of the base film between the pad part and the integrated circuit chip,	a dummy bending part **H** for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part **G** by removing a portion of the base film **E** between the pad part **G** and the integrated circuit chip **F**.
wherein the dummy bending part is	the dummy bending part **H** is formed at a position,

Claims in the '121 Patent	ViewSonic VE710s Monitor
formed at a position, close to the pad part, where the tape carrier package is not folded.	close to the pad part **G**, where the tape carrier package **D** is not folded.
6. The tape carrier package according to claim 5, further comprising a first bending part in which a second portion of the base film is removed at the bent position between the dummy bending part and the integrated circuit chip.	The tape carrier package **D** includes a first bending part **I** in which a second portion of the base film **E** is removed at the bent position between the dummy bending part **H** and the integrated circuit chip **F**.
7. The tape carrier package according to claim 6, further comprising a second pad part for connection to a printed circuit board.	The tape carrier package **D** includes a second pad part **J** for connection to a printed circuit board **C**.
8. A tape carrier package, comprising:	The ViewSonic monitor includes a CPT module with a tape carrier package **D**, which includes
a pad part for connection to a liquid crystal panel;	a pad part **G** for connection to a liquid crystal panel **B**.
a base film mounted with an integrated circuit chip for applying a signal to the liquid crystal panel;	a base film **E** mounted with an integrated circuit chip **F** for applying a signal to the liquid crystal panel **B**.
a dummy bending part for distributing a stress applied to the liquid crystal panel according to a thermal expansion of the pad part by removing a portion of the base film between the pad part and the integrated circuit chip;	a dummy bending part **H** for distributing a stress applied to the liquid crystal panel **B** according to a thermal expansion of the pad part by removing a portion of the base film **E** between the pad part **G** and the integrated circuit chip **F**.
a first bending part in which a second portion of the base film is removed at a bent position between the dummy bending part and the integrated circuit chip;	a first bending part **I** in which a second portion of the base film **E** is removed at a bent position between the dummy bending part **H** and the integrated circuit chip **F**.
a second pad part for connection to a printed circuit board; and	a second pad part **J** for connection to a printed circuit board **C**.

Claims in the '121 Patent	ViewSonic VE710s Monitor
a second bending part in which a third portion of the base film is removed at a bent position between the second pad and the integrated circuit chip.	a second bending part **K** in which a third portion of the base film **E** is removed at a bent position between the second pad **J** and the integrated circuit chip **F**.
9. The tape carrier package according to claim 5, further comprising a second pad part for connection to a printed circuit board.	The tape carrier package **D** includes a second pad part **K** for connection to a printed circuit board **C**.
14. A tape carrier package, comprising:	The ViewSonic monitor includes a CPT module with a tape carrier package **D**, which includes
a base film mounted with an integrated circuit chip for applying a signal to a liquid crystal panel;	a base film **E** mounted with an integrated circuit chip **F** for applying a signal to a liquid crystal panel **B**.
a pad part extending from the integrated circuit chip to be connected to the liquid crystal panel;	a pad part **G** extending from the integrated circuit chip **F** to be connected to the liquid crystal panel **B**.
at least one bending part in which a portion of the base film is removed at an area where the tape carrier package is folded; and	at least one bending part **I** in which a portion of the base film **E** is removed at an area where the tape carrier package **D** is folded.
at least one dummy bending part, in which a second portion of the base film is removed at a portion where the tape carrier package is not folded, thereby reducing a thermal expansion force and a thermal contraction force of the base film parallel to a longitudinal direction of the integrated circuit chip.	at least one dummy bending part **H**, in which a second portion of the base film **E** is removed at a portion where the tape carrier package **D** is not folded, thereby reducing a thermal expansion force and a thermal contraction force of the base film **E** parallel to a longitudinal direction of the integrated circuit chip **F**.

27. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on this 31 day of October, 2005.

William K. Bohannon